

THE K8AT EME ANTENNA



DIVISION OF VARIAN
301 Industrial Way
San Carlos, California

THE K8AT EME ARRAY

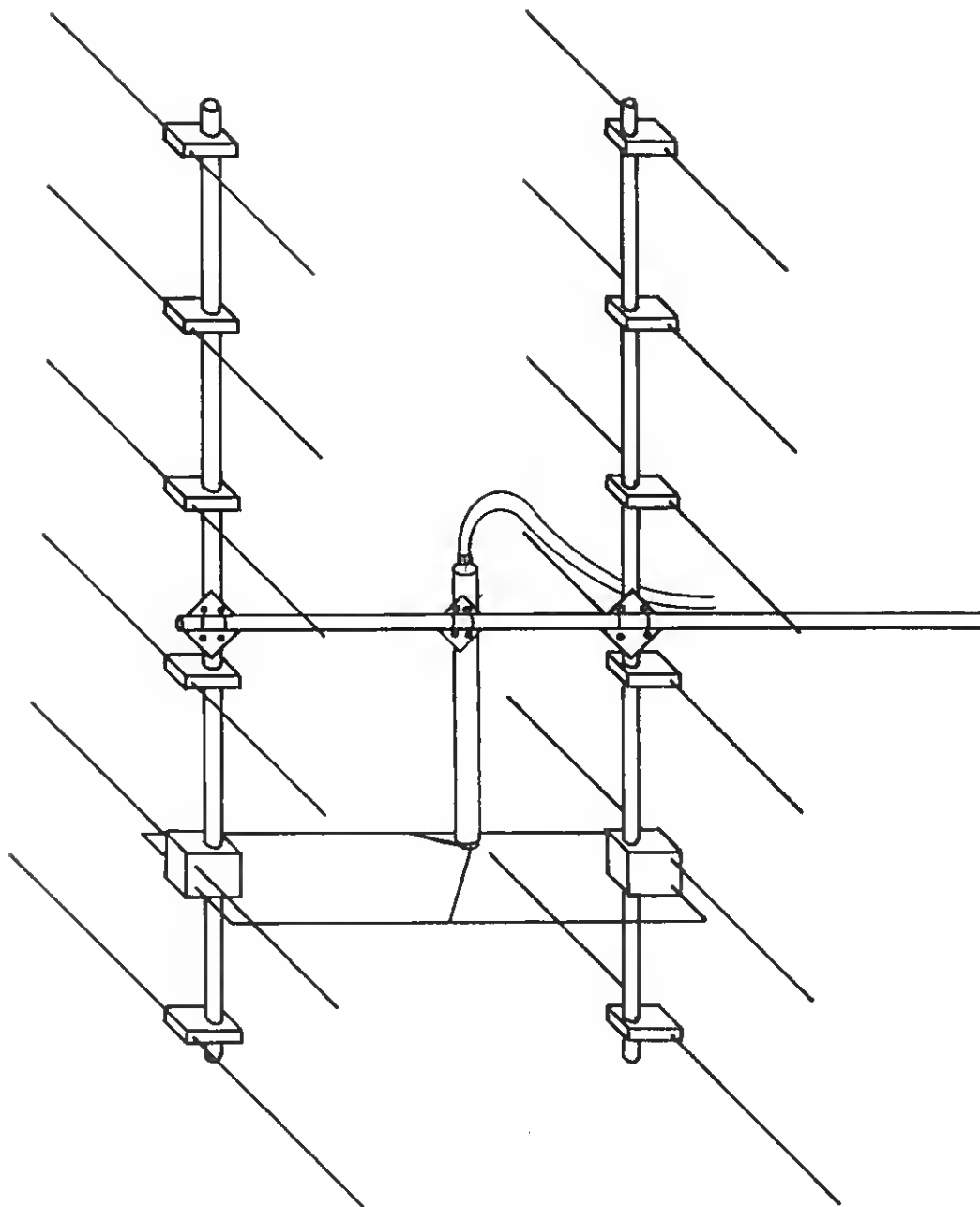
This antenna is a consistent performer and very rugged. It has survived the rigors of the Dayton, Ohio weather longer than any former EME antenna constructed by K8AT.

Please note the difference in the design from the standard J slot antenna. The very closely coupled first director is the innovation of John Yurek, K3PGP. When K3PGP was active on 144 MHz EME using a similar J slot array, he had one of the better signals.

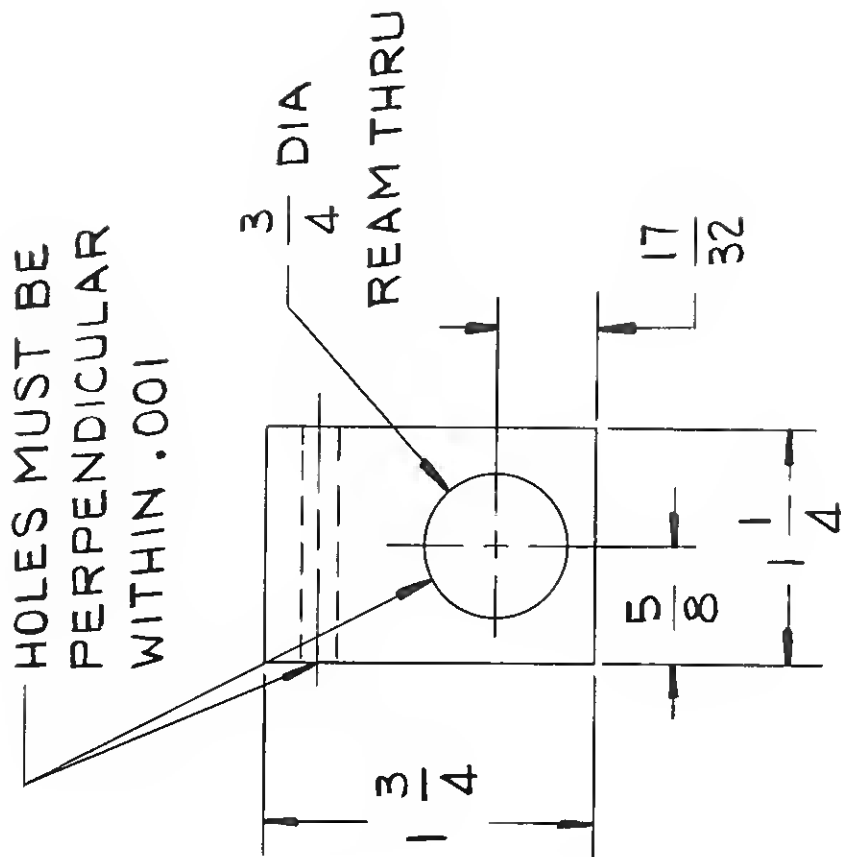
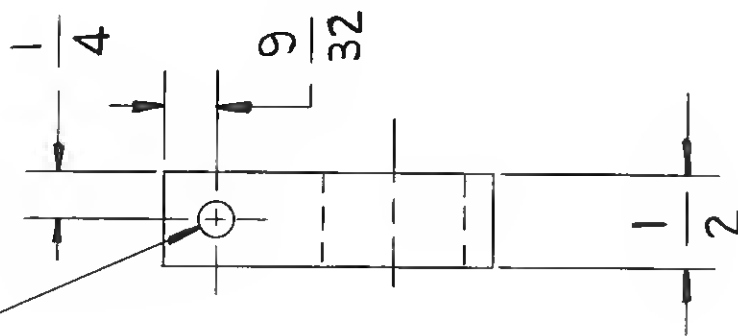
The drawings and pictures are self-explanatory and can be used for duplication of the array. However, some additional notes may help.

1. The spacing between all elements is 16 inches.
2. The slot is 15 inches wide by 45 inches long and is made in two halves. The two halves are then joined together by brass tubing obtainable from any hobby shop.
3. The slot is placed 7/8 inch behind the first director.
4. The parts list contains those materials needed to make four slot antennas (The element length dimensions are in the parts list).
5. The copper pipe for the baluns is standard 3/4 inch and 1/2 inch plumbing copper.
6. The antenna gain is approximately 13.3-13.5 dB over a dipole per antenna. The total gain for the array is approximately 21 dBd. The close spacing has given a very clean pattern at the expense of gain. This trade off appears to be a good one.

2 METER SKELETON SLOT ANTENNA



$\frac{3}{16}$ DIA REAM THRU



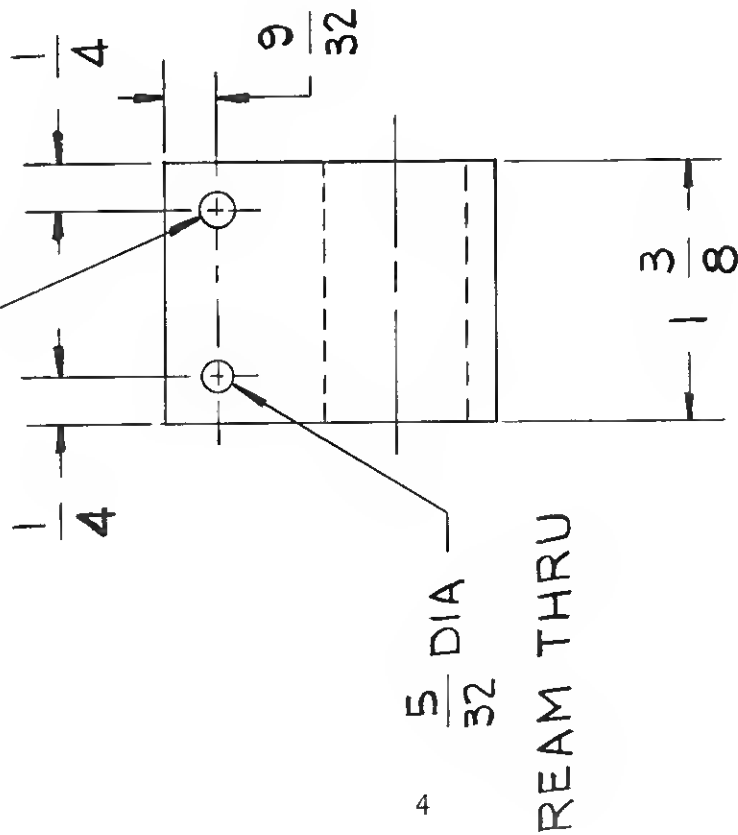
HOLES MUST BE
PERPENDICULAR
WITHIN .001

MATERIAL: POLYSTYRENE

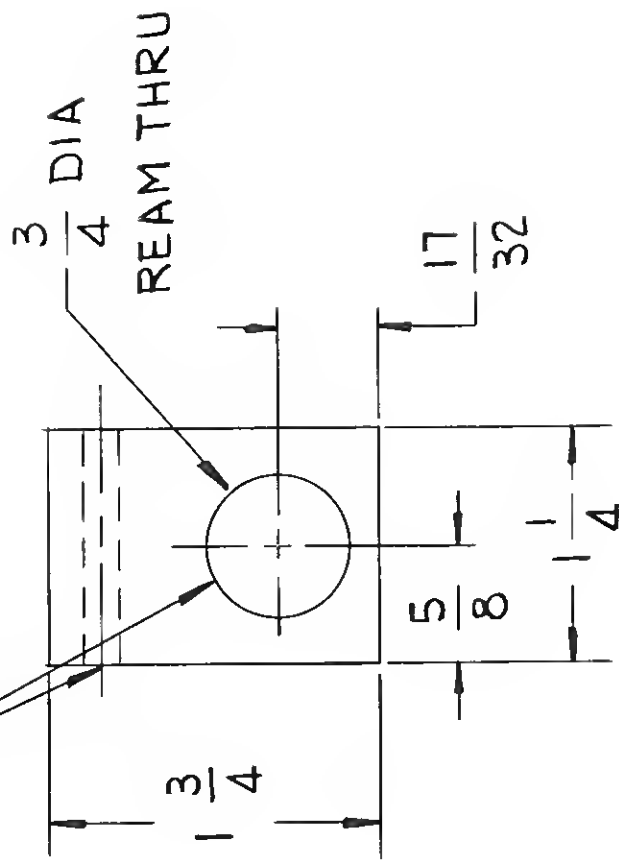
REFLECTOR AND DIRECTOR

ELEMENT INSULATOR A₁

$\frac{3}{16}$ DIA REAM THRU



HOLES MUST BE PERPENDICULAR WITHIN .001



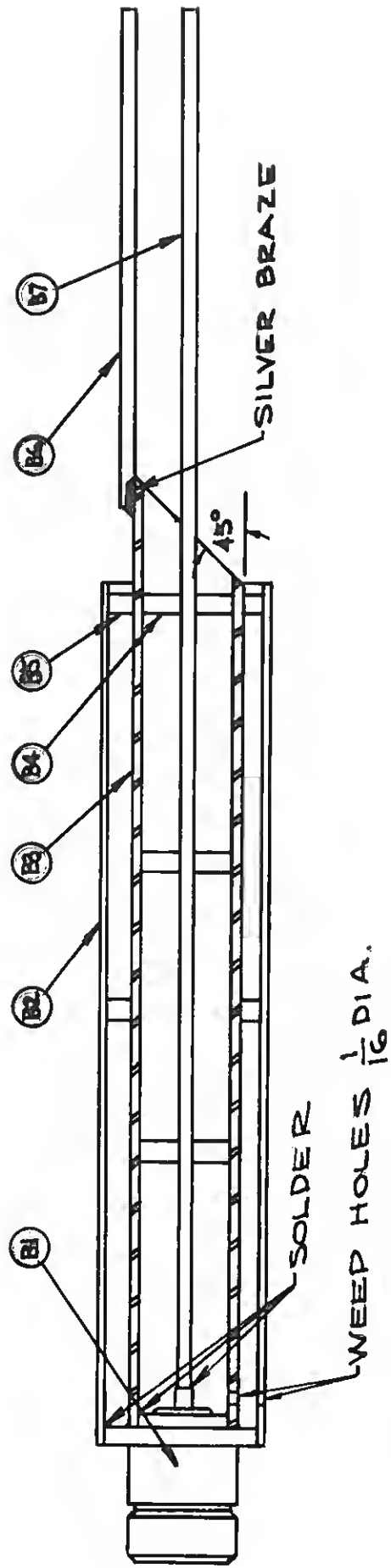
MATERIAL : POLYSTYRENE

DRIVEN ELEMENT AND

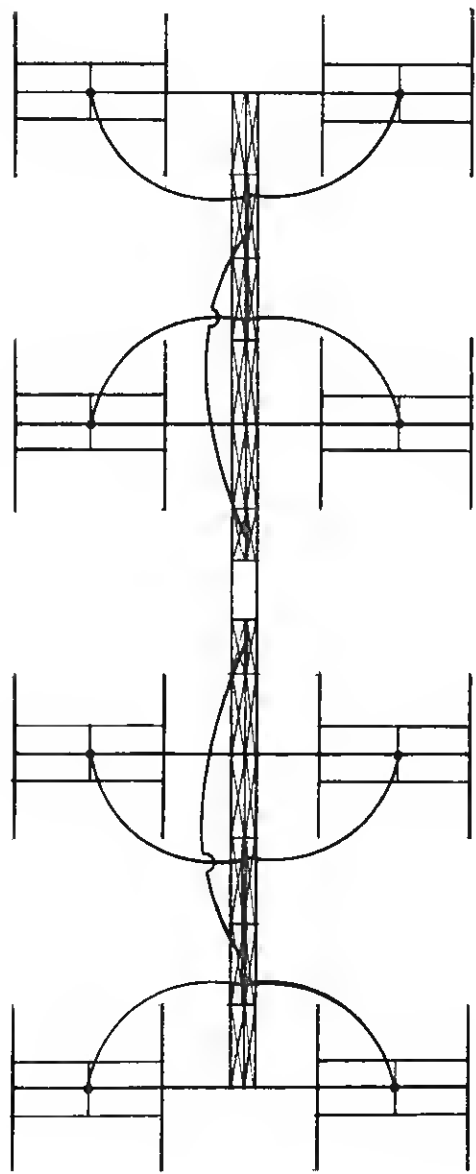
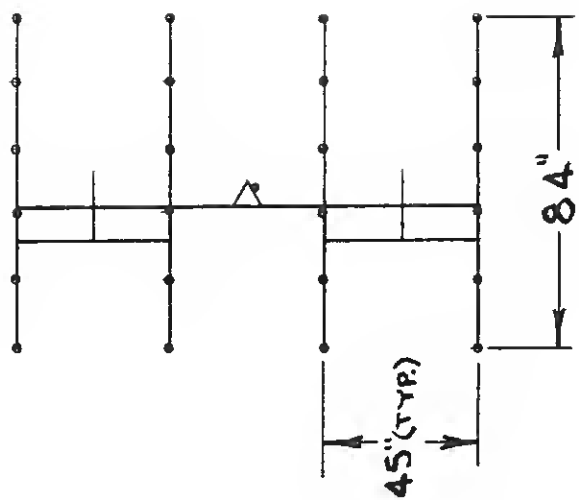
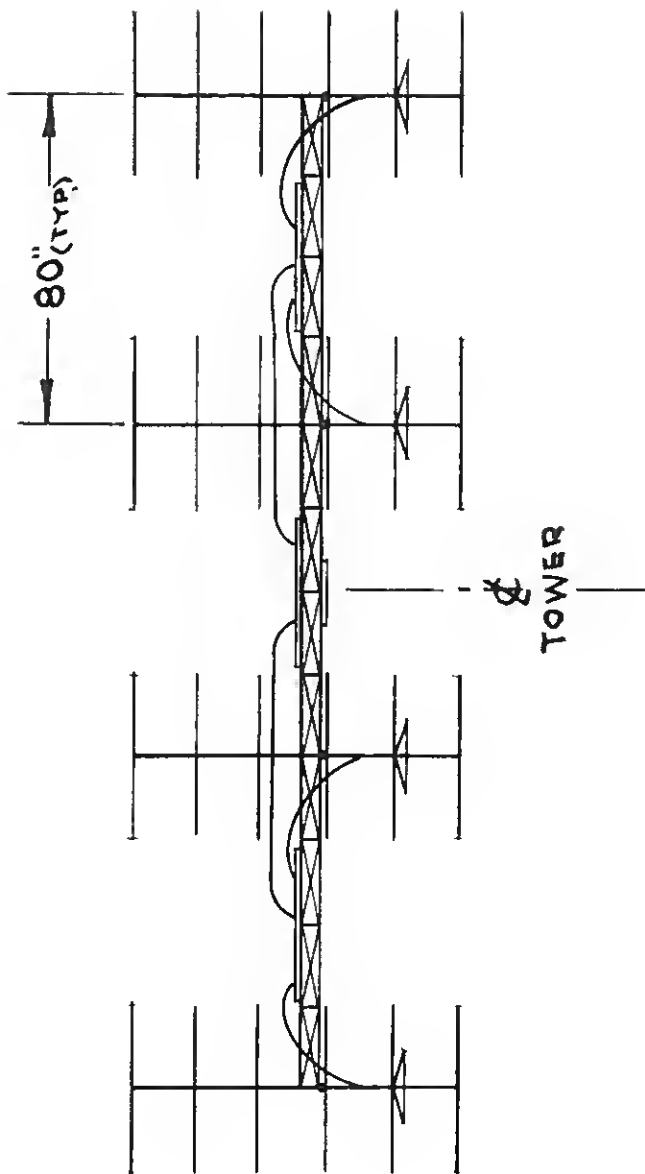
SLOT INSULATOR

A₂

BALUN DETAIL



TURN COAX CONNECTOR TO FIT INSIDE $\frac{3}{4}$ COPPER TUBE.



PARTS LIST

PART NO.	QUANTITY REQ'D	DESCRIPTION
	8	40 IN. LONG, $\frac{3}{16}$ DIA. 6061-T6 ALUM. ROD
	8	36 $\frac{3}{4}$ IN. LONG, $\frac{3}{16}$ DIA. 6061-T6 ALUM. ROD
	8	36 IN. LONG, $\frac{3}{16}$ DIA. 6061-T6 ALUM. ROD
	8	35 $\frac{3}{4}$ IN. LONG, $\frac{3}{16}$ DIA. 6061-T6 ALUM. ROD
	8	35 $\frac{3}{8}$ IN. LONG, $\frac{3}{16}$ DIA. 6061-T6 ALUM. ROD
	8	35 IN. LONG, $\frac{3}{16}$ DIA. 6061-T6 ALUM. ROD
	8	7 FT. LONG, $\frac{3}{4}$ DIA. 6061-T6, .058 IN. WALL
	2	12 FT. LONG, $1\frac{1}{2}$ DIA. 6061-T6, .065 IN. WALL
	1	7 FT. LONG, $1\frac{1}{2}$ DIA. 6061-T6, .065 IN. WALL
	40	$\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{3}{4}$ POLYSTYRENE BLOCKS
	8	$1\frac{3}{8} \times 1\frac{1}{4} \times 1\frac{3}{4}$ POLYSTYRENE BLOCKS
	1	4 FT. LONG, 1 IN SQ., $\frac{1}{8}$ IN. WALL, ALUMINUM
	8	5 FT., $\frac{5}{32}$ DIA. BRASS ROD
	8	$\frac{5}{32}$ I.D. \times $\frac{3}{16}$ O.D. \times $1\frac{1}{4}$ IN. LONG BRASS TUBING
	1	4 FT. LONG, $\frac{11}{32}$ DIA. BRASS ROD
B7	4	5 FT. LONG, $\frac{3}{32}$ DIA. BRASS ROD
B6	4	3 FT. LONG, $\frac{3}{32}$ DIA. BRASS ROD
B2	4	20 $\frac{1}{4}$ IN. LONG, $\frac{3}{4}$ IN. HARD DRAWN COPPER PIPE
B3	4	21 IN. LONG, $\frac{1}{2}$ IN. HARD DRAWN COPPER PIPE
	9	"N" TYPE COAX MALE CONNECTORS
B1	9	"N" TYPE COAX FEMALE CONNECTORS
B4	12	.575 O.D. \times .092 I.D. \times $\frac{1}{8}$ THICK, TEFLON WASHERS
B5	8	.787 O.D. \times .626 I.D. \times $\frac{1}{8}$ THICK, TEFLON WASHERS

